



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: :  
James W. Robins, et al. :  
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Application No.: 10/693,045 :  
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Group Art Unit: 3726 :  
 :  
Filed: October 24, 2003 :  
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Examiner: To be assigned :  
 :  
For: METAL MAKING LANCE ASSEMBLY :  
 :  
 :  
Attorney Docket No.: 11241-0024 :

I, John F. Letchford, Registration No. 33,328, certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 18, 2004.

  
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John F. Letchford

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT**  
**PURSUANT TO 37 C.F.R. §§ 1.56, 1.97 and 1.98**

This Information Disclosure Statement is submitted to the U.S. Patent and Trademark Office pursuant to Applicants' duty under 37 C.F.R. §1.56, and complies as well with 37 C.F.R. §§ 1.97 and 1.98. A copy of each listed reference is enclosed.

Form PTO/SB/08a enclosed herewith lists three (3) prior art references recently cited in the parent of the present application, U.S. Patent Application No. 10/167,711. The following is a concise explanation of the relevance of the only one of those references that was cited against the claims of the parent application.

United States Patent No. 3,396,960 to Maatsch discloses a sensing and treatment lance for use in a metal making vessel. The lance includes a consumable probe that is disposed in the center of the nozzle that discharges a stream of oxygen gas from the lance. The probe is cooled by the depressurization of the oxygen as it is discharged from the lance. In stark contrast to the Maatsch device, the metal making lance assembly defined in each of independent claims 1 and 10 of the present application requires a sensor feed tube that is *separate from and isolated from fluid communication with the at least one treatment material discharge nozzle of the lance*. The sensor tube thus shields the claimed consumable sensors from the gaseous and/or metal treatment material discharged by the lance.

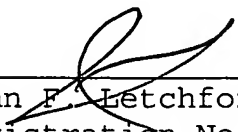
The practical significance of this unique construction is that the sensor feed tube greatly reduces sensor reading distortion caused by impingement of the flowing metal treatment material upon the sensor. To illustrate most clearly, the lance assembly shown by Maatsch would be especially ineffective in situations where one would attempt to use a thermal probe or sensor to measure the temperature of the bath or furnace vessel. That is because depressurizing oxygen flowing around a thermal sensor disposed *within an oxygen discharge nozzle* in the manner of the probe 6 taught by Maatsch would cool the probe, thereby

necessarily resulting in distorted temperature readings being taken by the probe.

All of the aforesaid reported references are respectfully requested to be considered in connection with examination of this application, and to be made of record herein.

Respectfully submitted,

Date: March 18, 2004

  
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

**(Use as many sheets as necessary)**

Sheet	1	of	1
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**Complete if Known**

Application Number	10/693,045
Filing Date	October 24, 2003
First Named Inventor	James W. Robins
Art Unit	3726
Examiner Name	To be assigned
Attorney Docket Number	11241-0031

## U. S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>2</sup> Applicant's unique citation designation number (optional). <sup>3</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>4</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>7</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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